DEPARTMENT OF AGRICULTURE

VICTORIA, AUSTRALIA

Pig Housing and Equipment

By

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Revised July, 1940

7490/40.

[Reprinted from the *Journal of the Department of Agriculture of Victoria.*]

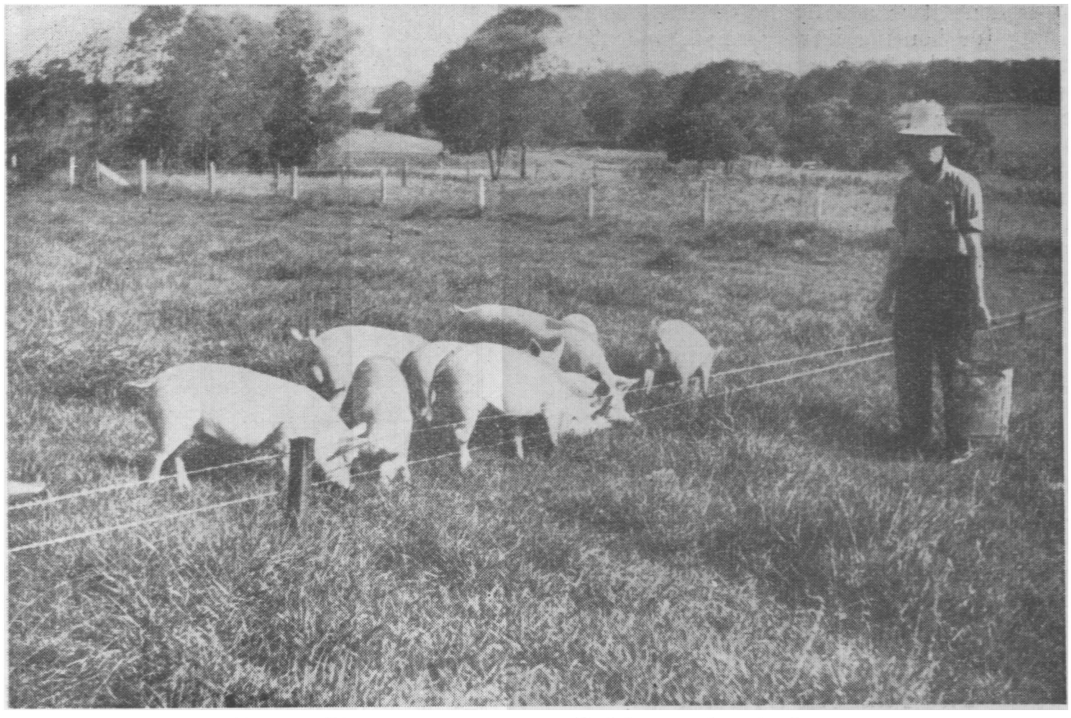

Fig. 1.—Pigs on pasture controlled by an electric fence.

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IF, when establishing or enlarging a piggery, some consideration is given to planning the project, the requirements of both the pigs and the owner can be provided for at a comparatively low cost, and the piggery can be a section of the farm of which the owner may be proud. It is hardly possible to prepare a standard plan and specifications which would provide a piggery suitable for every farm. Individual pig-raisers must therefore use their own discretion, but in order to provide them with some material suggestions, which may be copied or used as a basis for developing their own plans, the following information and illustrations have been prepared as a guide. They are based on a collection of observations on housing and equipment which have proved successful for pig farming.

Several requirements of pig housing and equipment are the same in all circumstances. Firstly, it is necessary on an orderly farm to have pigs under control in pens or paddocks away from other stock, at least 150 feet from dairy buildings, and where they will not have access to drainage from cow yards or poultry yards. These latter precautions are necessary as the droppings of cattle and poultry are a possible source of tuberculous infection in pigs.

Pigs require protection from extremely cold or hot weather; such protection can be considered as a means of saving pig food, as pigs do not grow economically when they are exposed to extremely hot or cold conditions. A high degree of sanitation is necessary in the piggery to keep pigs healthy, and in order that they may grow normally. Convenience in working the pig farm must be considered, as a convenient layout can save much labour.

The cost of the piggery equipment must, of course, be considered in the light of available capital and probable returns from the pigs, but the cost of housing should also be calculated as the cost per head for each pig which is likely to be reared in the piggery. When

this is done it is usually found that the cost per pig for housing is very small, and therefore it may be false economy to save a few pounds in the initial outlay if that saving means slower growth, higher food consumption, greater labour requirements or greater risk of disease. It is estimated that good housing and equipment for pigs on the usual small piggery costs from £1 10s. to £3 per pig capacity for capital outlay, and, when kept fully stocked, the depreciation cost per pig reared is from 1s. to 2s., which is a very small part of total production costs.

To provide a good state of sanitation in the piggery, the pigs should either be kept in pasture or cultivation paddocks which can be stocked lightly and in rotation, or they should be kept on the intensive system and provided with pens which have impervious floors and good drainage. Conditions between these two extremes, such as small bare earth yards, or pens with badly drained floors, are unsatisfactory in that they cannot be properly cleansed, and disease and parasitic infestation are thus encouraged.

The Paddock System.

The paddock or grazing system of pig raising has many features which commend it to Australian pig-raisers, and, while there is very little evidence resulting from controlled experiments to prove its superiority, observations indicate that this system is well suited to

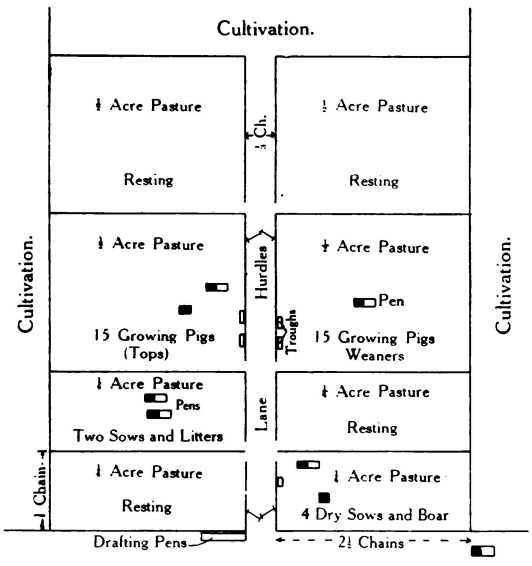


Fig. 2.—Plan of grazing piggery for six sows and their progeny suggested for the dairy farm.

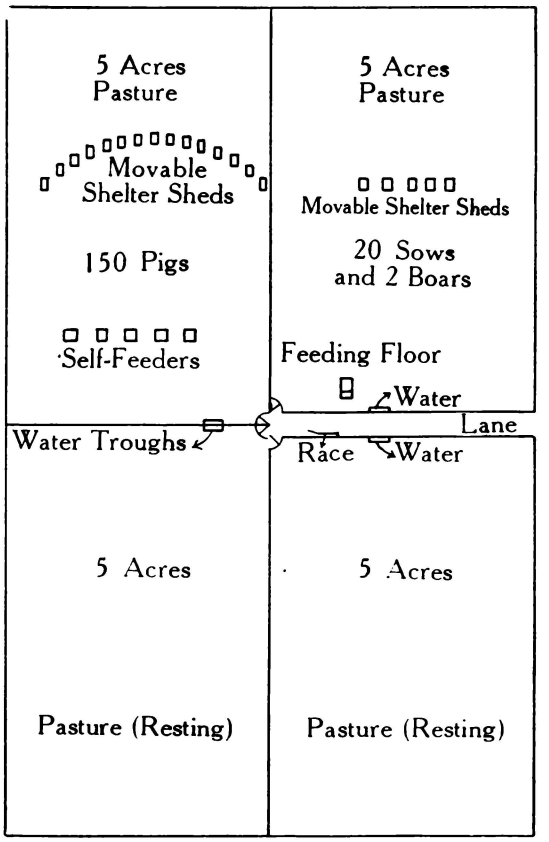


Fig. 3.—Suggested layout for piggery on a wheat farm to carry 20 breeding sows which are mated in a group.

the majority of farms where pigs are raised in Victoria. Frequently, a combination of the paddock and the intensive system of pig raising is to be preferred.

The chief feature of a grazing piggery is a number of paddocks ranging in area from a quarter of an acre upwards, depending on the class of grazing and the number of stock to be carried. There should be sufficient paddocks to enable rotational grazing and resting or, where practicable, cultivation. It is also desirable to have pigs graded into lots according to size and to keep sows with young litters separate.

In dairying districts where first class pasture is available half an acre is usually sufficient for each brood sow and her progeny up to baconer weight provided the pig paddocks are well subdivided and carefully managed. In drier districts one acre may be allowed to each sow kept. Dry breeding sows will gain almost all of their food requirements from good

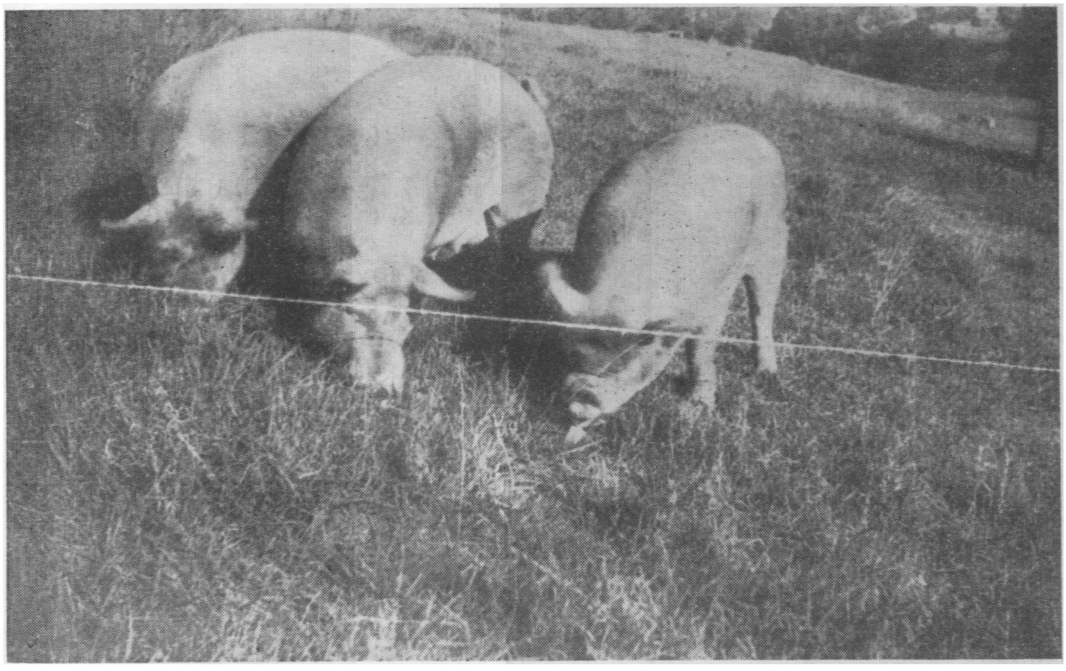


Fig. 4.—One wire 12 inches high connected to an electric fencer is sufficient to keep mature pigs in control.

pasture, but sows rearing litters, and young growing pigs make only limited use of pasture, and so must be given full allowances of concentrated foods even when they are being grazed on a good sward.

Pigs running on pasture or forage crops gain necessary food accessories, i.e., minerals and vitamins, and thus have an advantage over pigs raised in intensive pens where they frequently suffer from dietetic deficiencies unless the farmer is particularly skilled and has a sound knowledge of nutrition. To gain the full advantages of the paddock system, all equipment such as shelter sheds and feeding troughs should be so constructed that they can be moved about within a paddock or from one paddock to another. This prevents the ground from becoming fouled and allows a better distribution of pig manure so that its full fertilizing value is obtained. Because the

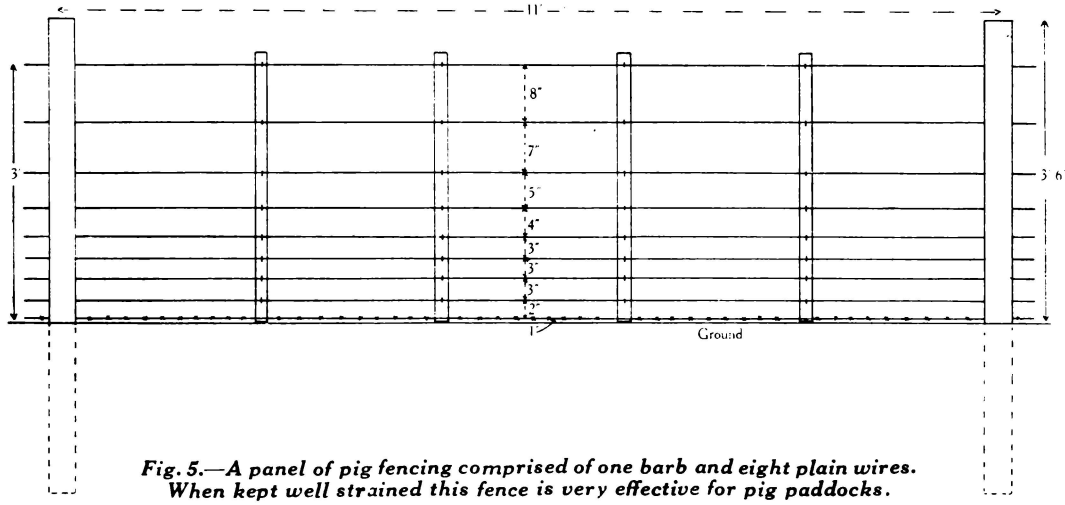


Fig. 5.—A panel of pig fencing comprised of one barb and eight plain wires. When kept well strained this fence is very effective for pig paddocks.

paddock system does not necessitate any cleaning up with broom and shovel, labour is saved and pig keeping is more congenial than under the small pen system.

It has been demonstrated that pigs can be satisfactorily reared from birth to marketing stage in paddocks without the use of fattening pens provided they are bred and fed correctly. The old custom of penning pigs to fatten them is gradually disappearing, as much leaner pigs are required for the pork and bacon trade than was the case years ago.

Plans of Grazing Piggery.

For the Dairy Farm.

A suggested plan for a grazing piggery on the average dairy farm, where the paddock system of pig keeping can be adopted, is shown in Fig. 2. It provides eight small pasture paddocks which can be grazed and spelled in rotation, with cultivation paddocks adjoining.

If matings are arranged in three lots of two sows, there would be, at most times, two sows with litters which could be kept in utility pens as illustrated in Figs. 6, 7, and 8. These pens should be moved frequently on to fresh ground within the paddock. After weaning, the sows are returned to the dry sow's paddock for mating and the weaned pigs are grouped and moved on to another paddock where they can be kept in a utility pen for a few weeks and then given the run of the paddock. At this stage they can be kept under control with an electric fence.

The growing pigs can be kept in paddocks until fit for marketing as porkers or baconers and if it is found desirable to draft off a few to be finished separately a utility pen may again be used in the paddocks. The central lane with portable hurdles and the drafting yards adjoining, enable the pigs to be conveniently handled, and feeding may be done with the aid of a trolley on rails or a horse-drawn trolley, or milk may be delivered along the central lane by pipes.

Several of the shelter sheds are shown without runs attached, they represent the shed portion only of the utility pens shown in Figs. 6, 7, and 8, and are used for dry sows and growing pigs. The troughs shown are of the type illustrated in Figs. 9 and 10, while details of the drafting pens are shown in Fig. 20.

Quarantine Pen.—A utility pen, away from the other pens, should be used for quarantine purposes. Newly introduced pigs should be isolated for a period of three weeks while they are kept under observation for disease.

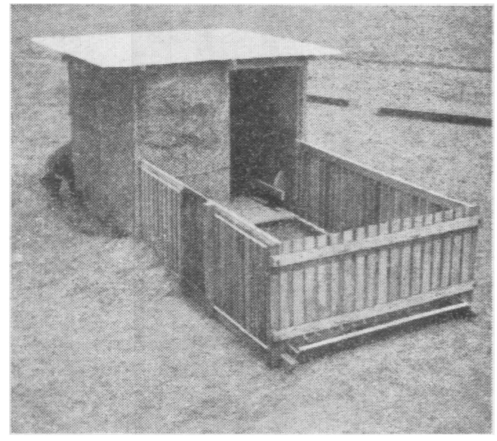


Fig. 6.—The utility movable pig pen designed for easy construction, light weight, protection for the pigs and low cost. The walls are of wire netting packed with straw. (See Fig. 7.)

For the Wheat Farm.

Wheat farmers, who feed their grain to pigs, are faced with a different proposition from dairy farmers, who keep pigs mainly to dispose of their separated milk, and, therefore, a somewhat different system of management, as shown in Fig. 3, is suggested. This plan provides for twenty sows and their progeny up to six months' old and is designed to have all sows mated at the one time, the boars being joined with the sows for one month. Farrowings could then be supervised by an attendant, each sow being allotted an individual shelter shed of similar design to that of the shed portion of the utility pens shown in Figs. 6, 7, and 8. A 6-in. board fixed across the doorway would keep the suckers in the shed until they were a few days old, when they could be allowed out.

The twenty sows would require a feeding floor 16 feet long and 9 feet wide with troughs along each side to give them ample feeding space for hand feeding. The suckers would require self-feeders, hurdled off from the sows, where they could get supplementary food, such as grain and meatmeal, to compensate for any "robbing" which may occur.

The pigs could be weaned when they averaged eight weeks old by drastically reducing the sows' food supply and leaving the suckers at the self-feeders. After weaning, the pigs should be put into a paddock away from the sows and given shelter sheds and self-feeders. Water should also be provided, preferably in automatic fountains or troughs.

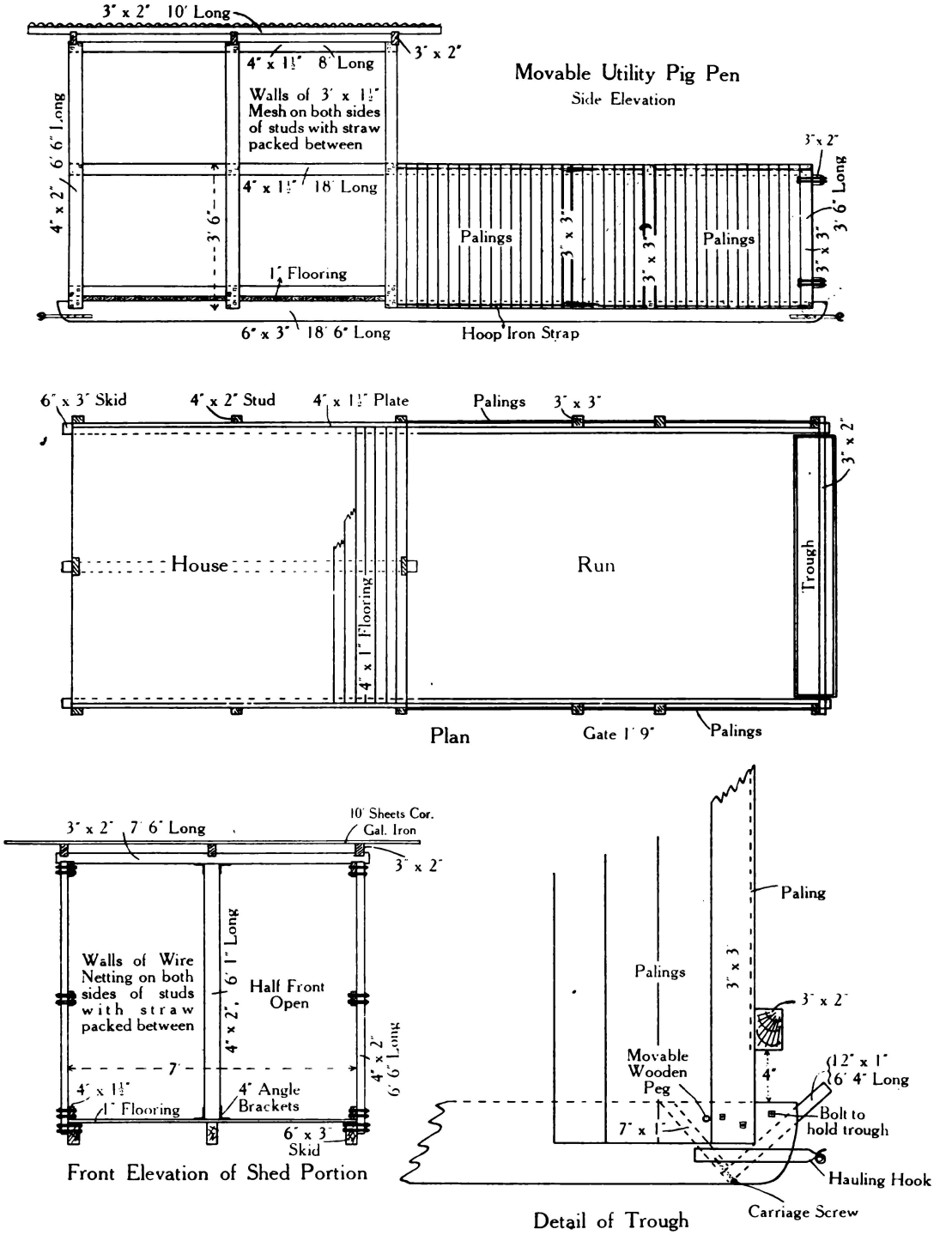
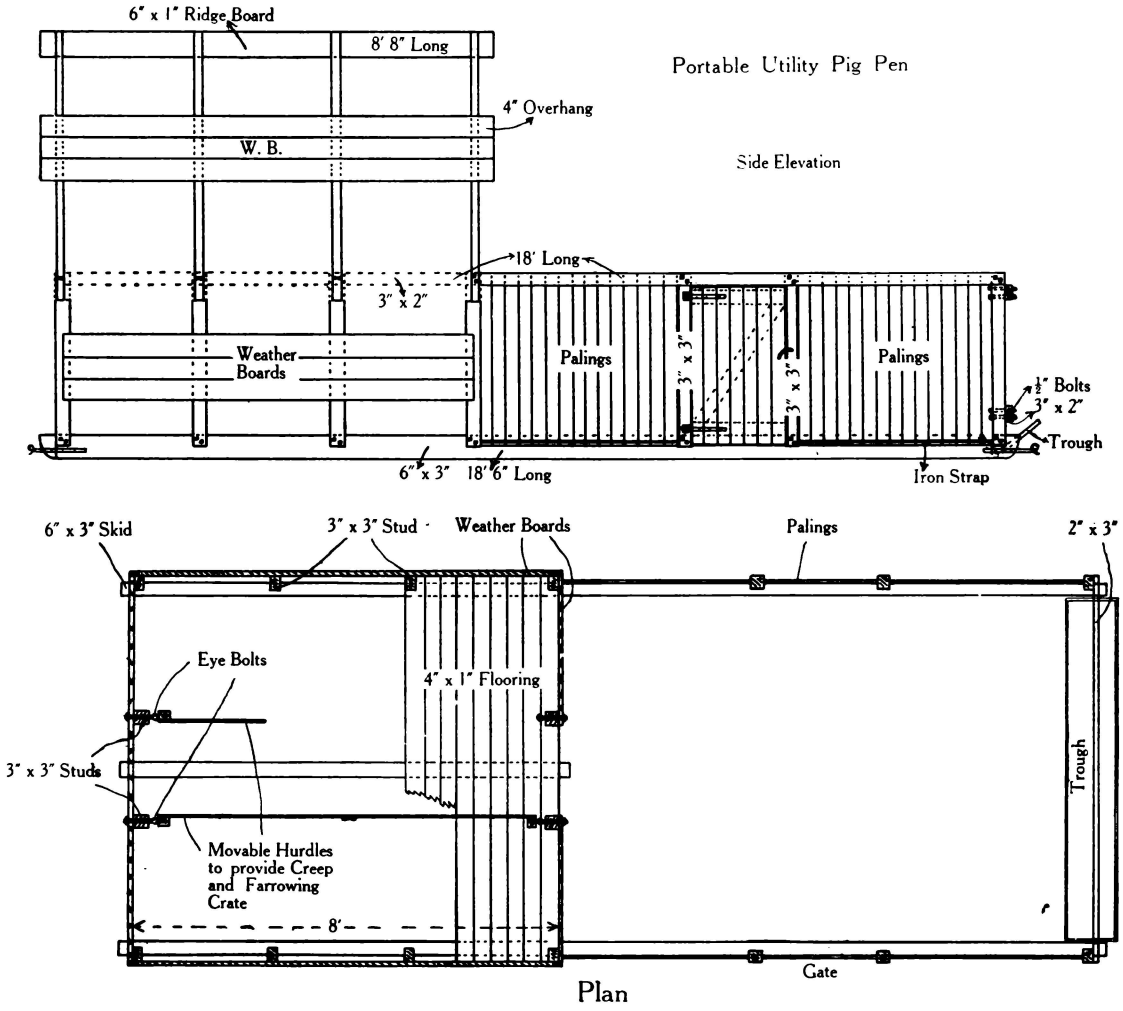
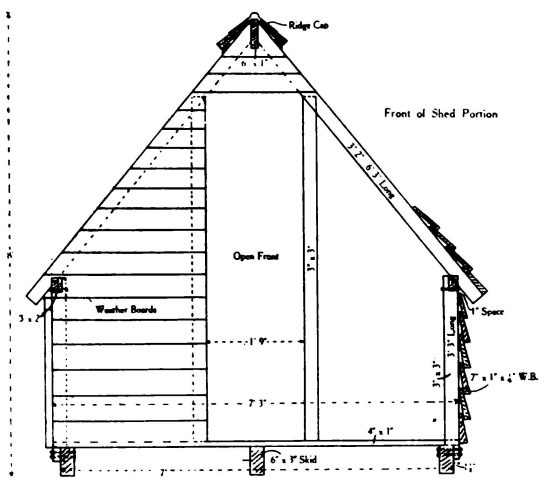
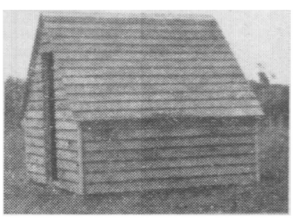


Fig. 7.—Showing details of the utility movable pig pen illustrated in Fig. 6.







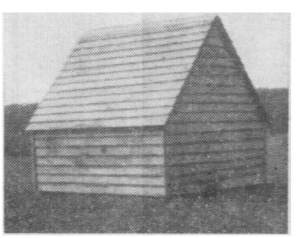


Fig. 8.—An alternative design of a utility movable pig pen walled and roofed with weatherboards. The shelter shed without the run attached is also shown. Hurdles for farrowing sows are shown in the plan. See also Fig. 18.

The Movable Pig Pen.

To gain the full advantage of the paddock system of pig raising, it is necessary to have shelter sheds and troughs so constructed that they can be moved about to fresh ground within the paddock, or from one paddock to another. The utility movable pens shown in Figs. 6, 7, and 8 are designed for use in paddocks and can be used for a sow and litter, about twelve porkers, eight baconers, or five breeding sows when it is required to lock them up, but they can also be used as a shelter and feeding place only. With the gate opened the pigs can have access to pasture. When pigs are confined to utility pens it is essential to move the pens frequently by horse or tractor on to fresh ground.

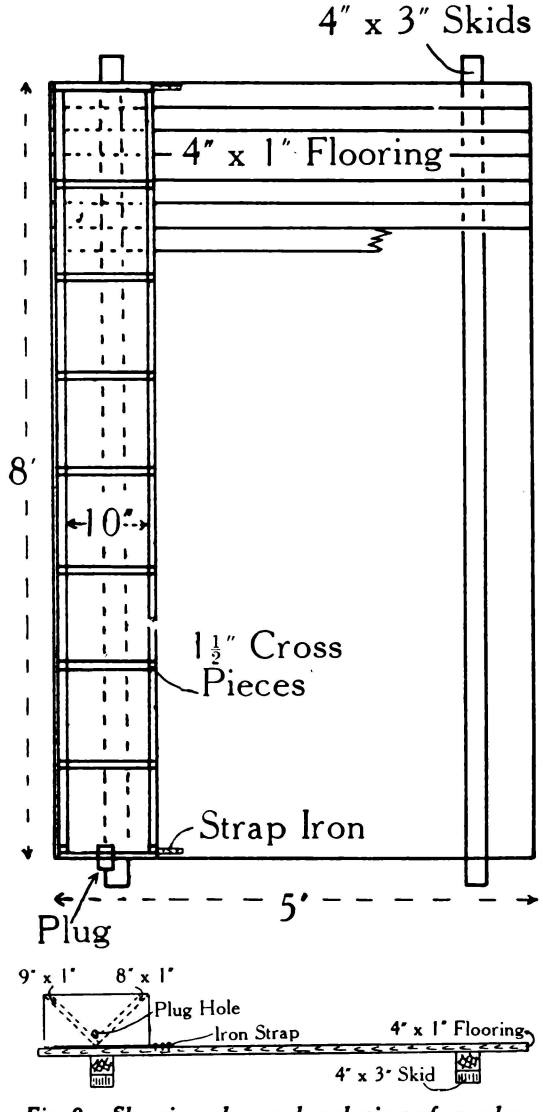


Fig. 9.—Showing plan and end view of wooden trough built on a movable platform. Movable equipment is most satisfactory for use in pig paddocks.

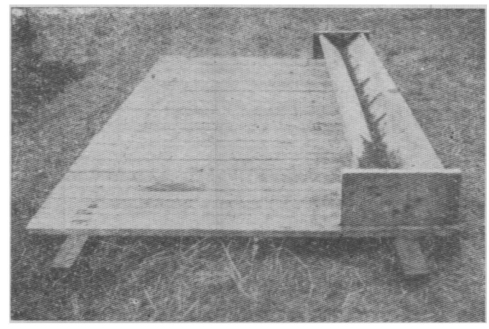


Fig. 10.—The wooden trough on a movable platform.

Wooden floors built in two sections may be provided for temporary use in the open part of utility pens during very wet weather.

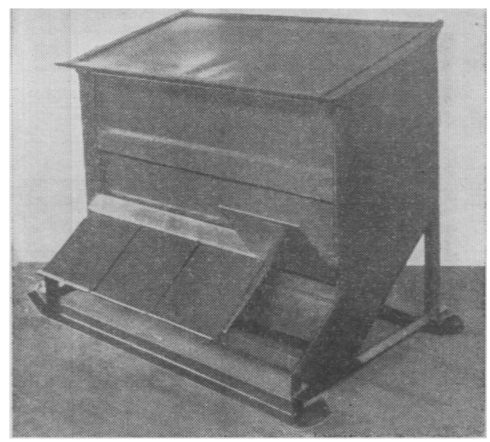


Fig. 11.—A single-sided self feeder made of angle iron and sheet metal. Note the hinged lids and grooved iron between lids to keep rain out of trough.

The utility pen (Figs. 6 and 7) is designed with an 8 feet by 7 feet sleeping shed with a wooden floor, and a 10 feet by 7 feet run with no floor and a trough at the end of the run. It is designed for easy construction, low cost, light weight and protection for the pigs. The walls shown in the drawings are 3 feet by 1½ inch mesh wire netting on the inside and outside of the studs. Between the two pieces of netting straw is stuffed tightly to give a wall up to 4 inches thick. Such a wall gives very good insulation from the extremes of weather,

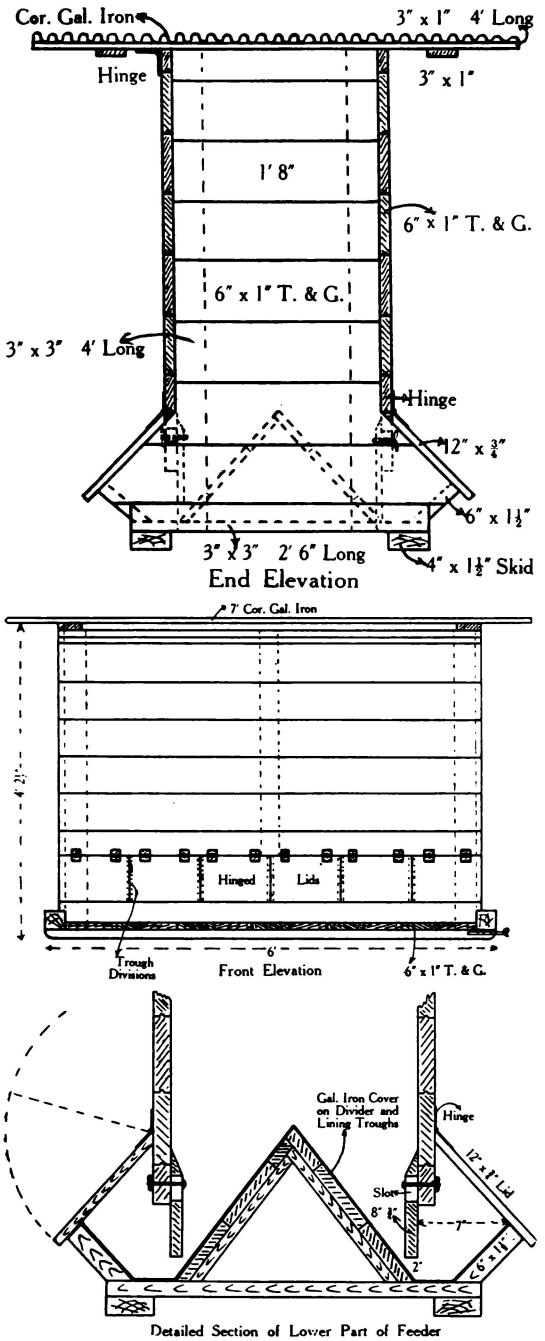


Fig. 12.—A double sided self feeder for 40 pigs.

is inexpensive, light and can be easily removed and burned if it becomes necessary to thoroughly disinfect the shed.

The walls are about 6 feet high and there is a good overhang on the roof with plenty of ventilation space between the walls and roof. The shed, therefore, is capable of keeping the pigs cool in hot weather and there should be no necessity to provide another structure for cool shade, as is necessary when a low, iron shelter shed is used for pig housing.

An alternative style of movable pen is shown in Fig. 8; it is walled and roofed with weather boards for coolness and strength, and provision is made for the use of hurdles to make a farrowing crush for the sow or a feeding creep for the suckers.

Where it is not required to lock pigs in a pen, the shed portion only of the utility pens in Figs. 6, 7, and 8 can be used as a shelter for pigs in paddocks.

Fencing.

Satisfactory pig fencing has always been a problem for the farmer but the recently introduced "electric fence" has helped to solve the problem. The "electric fence" has been used under varying conditions with a great deal of success. Its convenience, effectiveness and low cost commend it to the farmer who has more than a quarter of a mile of pig fencing to erect. See Figs. 1, 4, 5, and 13.

Intensive Pig Pens.

When intensive pig pens are required they should provide a high degree of sanitation, protection from extremes of heat and cold, and ample ventilation without direct draught. This necessitates ample inlets for fresh air and an exit for foul air which will be efficient even when strong winds are blowing and it becomes necessary to close up the house. Direct sunrays on the pigs are very desirable for the maintenance of health.

Fig. 15 shows a pair of intensive pens which could be multiplied to any desired number. Each pen is capable of holding up to ten fattening pigs and if a farrowing crate (Fig. 19) is provided the pen could be used for farrowing sows and their litters.

The pens are so planned that the drainage is kept away from the sleeping section; the passage at the back provides a place where the pigs may go to dung instead of fouling their feeding and sleeping places. Drainage from each pen is separate from the adjoining pen and goes into an outside drain through an outlet in the back wall. The troughs have a screw plug which enables them to be emptied towards the drain.

These pens provide comfort and convenience for both the pigs and the attendant, and, while

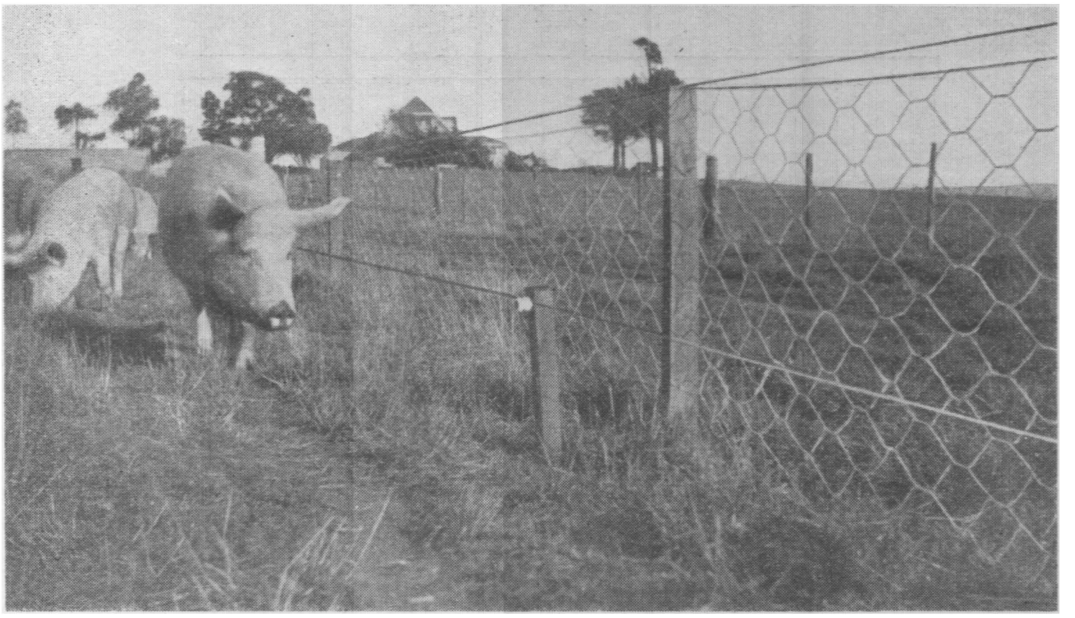


Fig. 13.—A combination of the electric fence and wire netting. The netting is 3 ft. × 3 in. mesh and is carried on 3 in. × 2 in. stakes placed 10 feet apart with heavy corner posts for straining. The electric wire is 14 inches above the ground, 12 inches from the netting, and is carried on 2 in. × 2 in. stakes placed 30 feet apart. Such a fence will hold pigs of all sizes.

they may be considered elaborate, they are a good investment where intensive pig housing is required. Their cost, including labour and material, is estimated at £60 per pair or £3 per pig capacity, but, as twenty pigs can be accommodated during their growing stage of say four months, three lots of twenty pigs could be housed in a year. In an estimated life of 20 years the pens could accommodate 1,200 pigs. The £60 cost of the pens spread over 1,200 pigs would give a housing cost of only 1s. per pig. Good housing for pigs is therefore a sound investment.

Self-Feeders.

Self-feeders are a labour saving device which can be used to advantage where grain or meals form a large part of the pigs' diet (Figs. 11 and 12). Self-feeding, as a means of supplementary feeding, can be practised satisfactorily with suckers running with the sows and, in some circumstances it may pay also to give sows suckling large litters access to a self-feeder. Dry sows tend to become too fat when self-fed and, therefore, should be hand fed a limited quantity of grain or meal and made to graze where possible.

The self-feeder is very useful for feeding pigs at weaning time and may be used until the pigs are fit for slaughter, excepting where it is desired to force them to consume large amounts of pasture or forage crops or other less palatable but cheaper foods. The self-

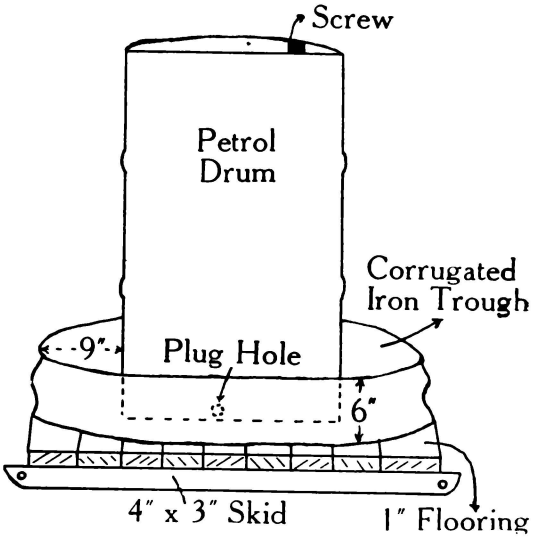


Fig. 14.—An automatic waterer for pigs. The plug hole is ½ inch diameter and 1½ inch from bottom of drum. It is plugged and the screw on top opened for filling the drum, then the screw is replaced and the plug removed to keep the trough full of water.

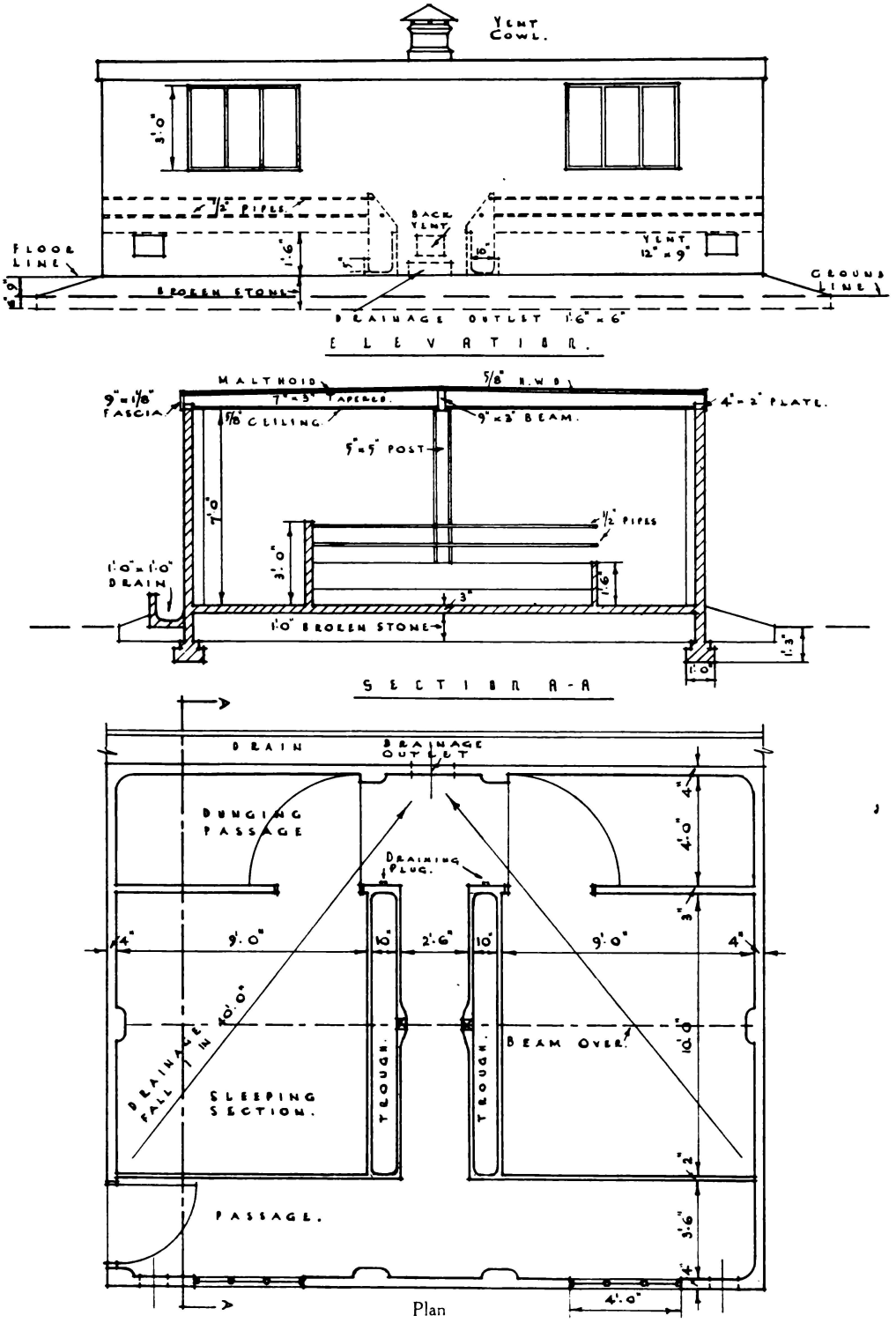


Fig. 15.—A pair of intensive pig pens.

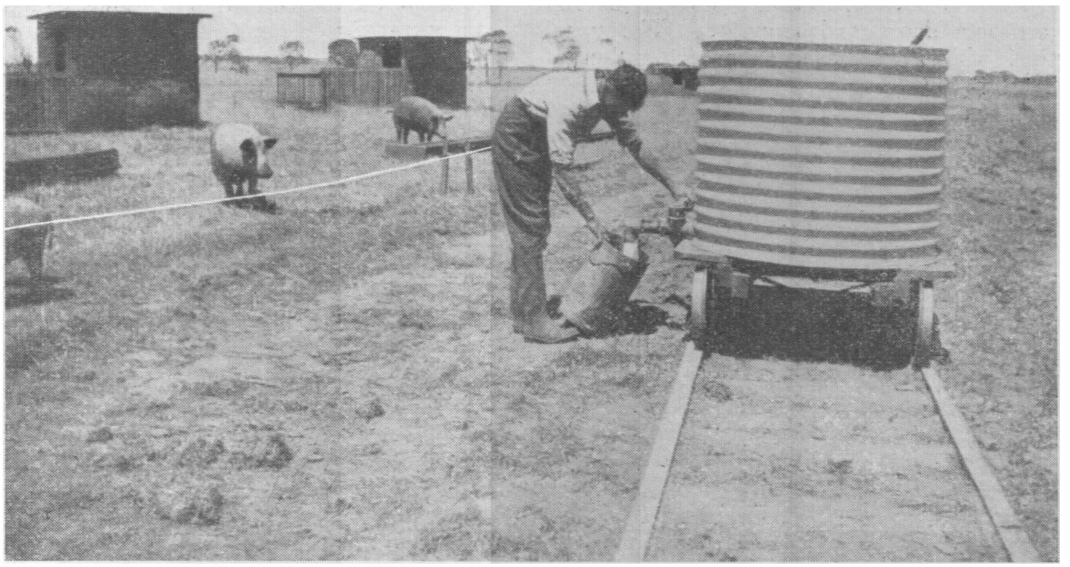


Fig. 16.—Feeding time on a well equipped piggery.

feeder should be so constructed that it will hold several days' food supply which will feed freely into the trough.

Self-feeders provided with hinged lids over the trough can be used out in the paddock, as they protect the food from weather, rats, and birds. When pigs are given dry food they must have access to water at all times.

Farrowing Crate or Guard Rail.

Some sows, through clumsiness or a nervous temperament, are apt to kill some of their pigs at the time of farrowing or during the few days following. This loss can be prevented to some extent by fitting guard rails in farrowing pens about 7 inches from walls and 9 inches from the floor. In this way the young pigs

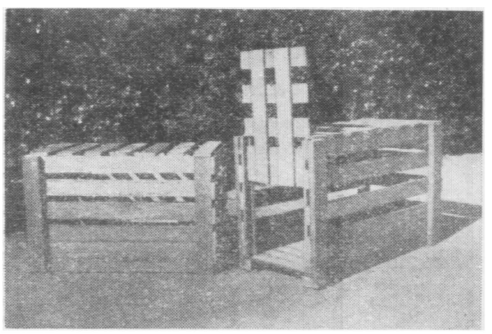


Fig. 17.—Crates suitable for transporting or weighing pigs.

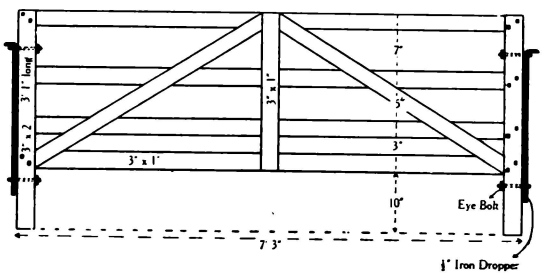


Fig. 18.—A hurdle for use as a farrowing crush or creep in pen illustrated in Fig. 8.

are provided with a safety zone around the walls.

Another device for the same purpose is the farrowing crate or crush (Figs. 18 and 19). The crate is placed in the sow's pen where she can get into it and become accustomed to it a few days before farrowing. When she is about to farrow she can be locked in.

Concrete in Pig Pens.

Concrete floors in pig pens should be set on a foundation of coarse material such as broken stone 1 foot deep and above ground level to check cold and dampness rising from the ground to the concrete floor. Floor surfaces should be finished with irregular grooves to give the pigs a grip and prevent slipping.

To check the disintegration caused by acid from milk and other foods and to make concrete more waterproof, the concrete should be

given three applications of silicate of soda (water glass) as it is setting. This comparatively inexpensive operation prolongs the life of concrete floors and troughs. The usual method of application is to mix 1 gallon of

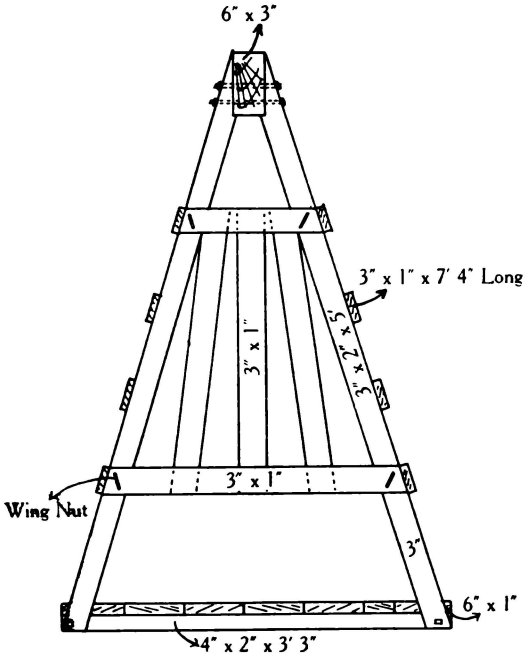


Fig. 19.—Sketch of farrowing crate to be used with difficult sows.

silicate of soda with 4 gallons of water and spray it on concrete when it is just beginning to set. This is followed by two more dressings at intervals of 24 hours.

Weighing Pigs on the Farm.

A 300-lb. clock-face scale costing approximately £3 is a good investment to the pig raiser. To measure the production of breeding stock the litters should be weighed when they are weaned. A wide variation is found in the production of different sows and such a measure of performance can be of inestimable value to the breeder in the selection and culling of breeding stock.

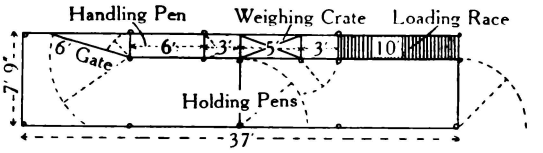


Fig 20.—Plan of drafting and weighing pens and loading race.

Pork and bacon pigs are sold on actual or estimated dressed weights and buyers prefer pigs within certain weight ranges. It is difficult for growers to accurately estimate the weight of their pigs which they have seen every day from birth, and an occasional weighing during the finishing stages of the pigs' growth would help farmers to market them at the desired weights and so get their full value. Further, by weighing foods given to pigs the grower can keep a check on his production costs and on the food consumption for each pound of live weight gain.

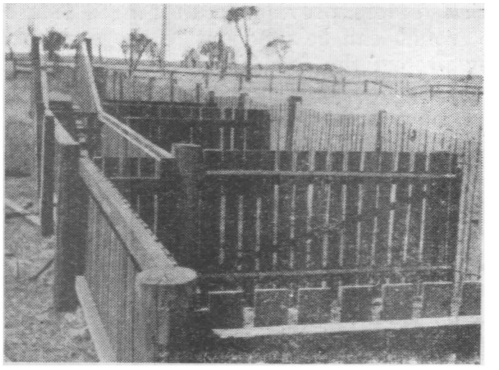


Fig. 21.—Drafting yards and loading race.

To weigh pigs up to baconer weight a crate 4 feet long, 18 inches wide, and 2 ft. 6 in. high should be provided with sliding doors at both ends. Wires should be fixed around the crate and brought together from the four corners to a ring over the centre of the crate. A simple lever arranged by a pole fixed to an overhead beam can be used to hold the scale hooked on to the wire of the crate. The weighing crate should be fixed in a race as shown in Fig. 20.

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